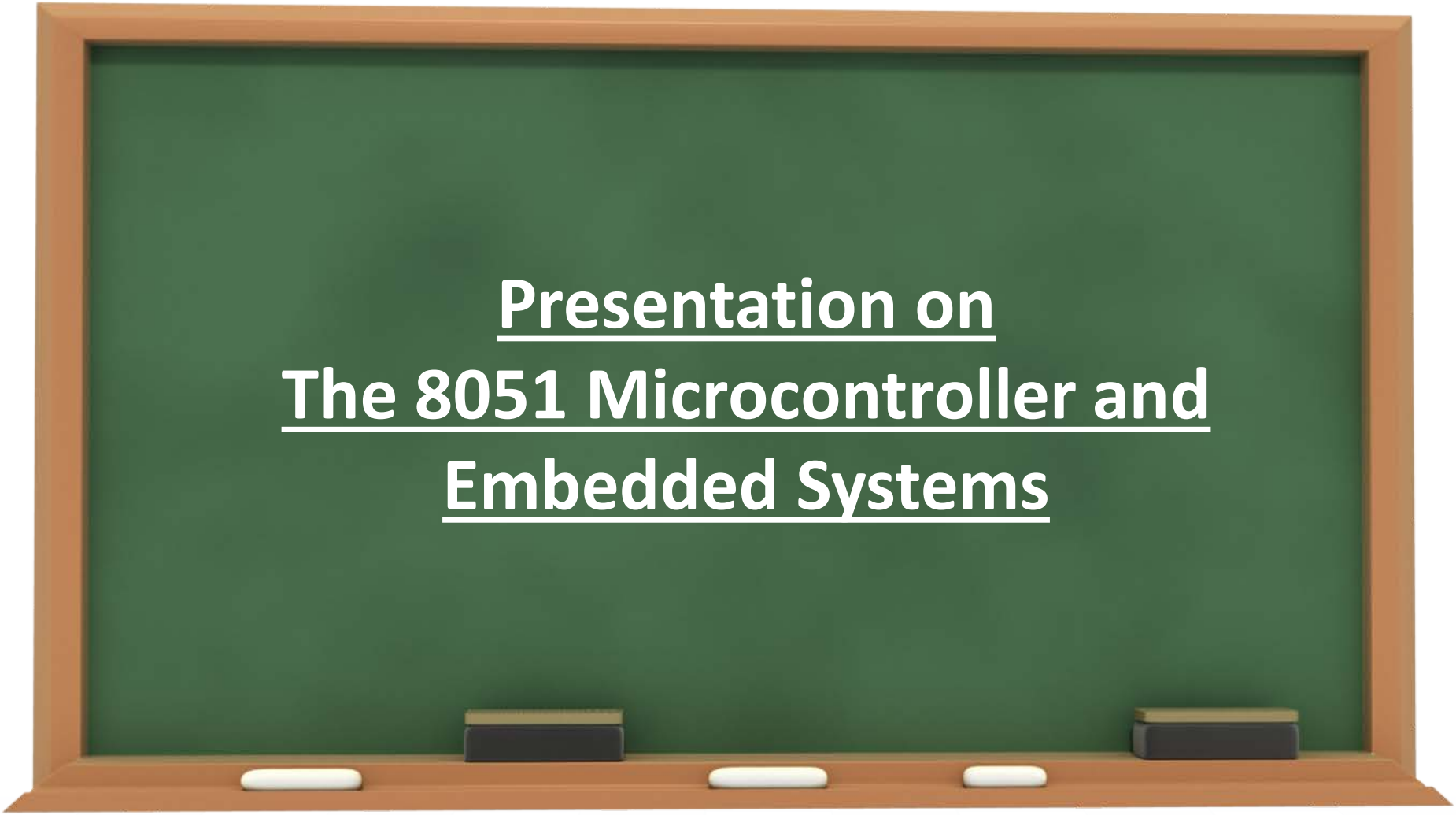

Presentation on
The 8051 Microcontroller and
Embedded Systems

INTRODUCTION TO EMBEDDED SYSTEM

- An embedded system is some combination of computer hardware and software that is specifically designed for a particular function.
- Embedded systems employ the use of a RTOS .

 (Real-Time Operating System).
- RTOS sets the rules during execution of application processes to enable finishing of a process within the assigned time interval and with assigned priority.

APPLICATIONS OF EMBEDDED SYSTEM

- Consumer electronics
- Telecommunications
- Automobiles
- Medical Instruments
- Industrial control equipment
- Defense
- Banking & Finance
- Entertainment
- Office automation

INTRODUCTION TO MICROCONTROLLER

- A microcontroller is a computer-on-a-chip.
- *Micro* suggests that the device is small, and controller tells you that the devise might be used to control objects, processes, or events.
- Another term to describe a microcontroller is *embedded controller,* because the microcontroller and its support circuits are often built into, or embedded in, the devices they control.

MICROPROCESSOR Vs MICROCONTROLLER

MICROPROCESSOR	MICROCONTROLLER
• Microprocessor is heart of Computer system	• Micro Controller is a heart of embedded system.
• It is just a processor. Memory and I/O components have to be connected externally.	• Micro controller has internal memory and I/O components.
• Since memory and I/O components are all external,it is relatively slower.	• Since memory and I/O components are all internal, it is relatively faster.
• Microprocessors are based on von Neumann model/ architecture.	• Micro controllers are based on Harvard architecture.
• Cost of the entire system increases.	• Cost of the entire system is low.
• Microprocessor have less number of registers	• Micro controller have more number of registers

A DESCRIPTIVE BLOCK DIAGRAM OF MICROPROCESSOR & MICROCONTROLLER

